

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

December 15, 2016

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
700 NE Multnomah Street, #600
Portland, Oregon 97232

HAI Project No. 2708
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and
7200 NW Front Avenue, Portland, Oregon**

Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report to summarize Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of November 2016. NW Natural is completing upland investigation and cleanup activities at the NW Natural Site under the Voluntary Agreement No. ECV-C-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

**1. ACTIONS TAKEN UNDER THE VOLUNTARY AGREEMENT DURING
THE PREVIOUS MONTH**

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during November 2016. The system recovered approximately 7 gallons of fluids in November, primarily DNAPL. The DNAPL storage tank reached capacity during November with 492 gallons measured in the tank and therefore the system automatically shut-off. Scheduling of the product removal from this tank for re-refining are underway.

Tasks related to maintenance of the HC&C system and the groundwater treatment system were conducted in November 2016, with the system operating under Phase 2 testing parameters since July 21, 2015. No significant non-routine actions were completed in November.

Baseline DNAPL removal as needed to maintain levels below the top of the well sumps was conducted by Anchor QEA during November 2016 in the following wells near the river shoreline.

- MW-26U
- MW-27U
- MW-38U
- MW-PW-2L
- PW-2L
- PW-13U

A total of 9,989,452 gallons of water were treated in the on-site groundwater treatment plant and discharged during November 2016. Discharged water met all effluent criteria set by the facility's NPDES permit.

Groundwater sampling activities as per the current DEQ-approved third quarter monitoring event (initiated in September 2016) were completed during November (completed November 2, 2016).

2. ACTIONS SCHEDULED TO BE TAKEN IN THE NEXT MONTH

NW Natural and DEQ technical working group communications and meetings will occur as needed within the next month to discuss ongoing project tasks.

Planning and preparations for completion of the RI/RA Addendum for the northern portion of the Siltronic property continue during the indicated timeframe.

Fourth quarter groundwater monitoring activities, which include manual collection of water levels and DNAPL checks, will be completed in December in accordance with the DEQ-approved monitoring schedule.

NW Natural hopes to receive DEQ's comments on the May 2016 *Gasco Uplands Data Gaps Investigation Work Plan* in order to begin scheduling and planning field work in anticipation of incorporating data from the data gaps investigation into the revised Gasco Upland FS Work Plan by June 2017 as requested by DEQ.

3. LABORATORY TEST RESULTS RECEIVED DURING THE PREVIOUS MONTH

NW Natural receives test results on a regular basis as a result of routine monitoring related to groundwater quality or as specified by various permit requirements. Additionally, test results are periodically received through implementation of task-specific investigation activities resulting from agency-approved work plans. These data are provided to DEQ or the permitting authority (if different than DEQ) in accordance with previously-approved formats and schedules.

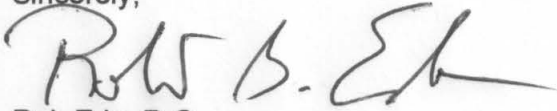
There were no test results received within the previous month that will not be reported in accordance with previously-approved formats and schedules.

4. PROBLEMS EXPERIENCED DURING THE PREVIOUS MONTH

There were no problems of significance experienced during the previous month.

Should you have any questions, please contact the undersigned.

Sincerely,



Rob Ede, R.G.
Principal

robe@hahnenv.com

Attachment: November 2016 Communications and Submittals

Cc: Mr. Bob Wyatt, NW Natural (electronic only)
Ms. Patty Dost, Pearl Legal Group PC (electronic only)
Ms. Rachel Melissa, Pearl Legal Group PC (electronic only)
Ms. Sarah Riddle, Pearl Legal Group PC (electronic only)
Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
Mr. John Edwards, Anchor QEA, L.L.C. (electronic only)
Mr. Ben Hung, Anchor QEA, L.L.C. (electronic only)
Mr. Ryan Barth, Anchor QEA, L.L.C. (electronic only)
Ms. Halah Voges, Anchor QEA, L.L.C. (electronic only)
Ms. Jen Mott, Anchor QEA, L.L.C. (electronic only)
Mr. John Renda, Anchor QEA, L.L.C. (electronic only)
Mr. Tim Stone, Anchor QEA, L.L.C. (electronic only)
Mr. Todd Thornburg, Anchor QEA, L.L.C. (electronic only)
Mr. Chip Byrd, Severson Environmental Services, Inc. (electronic only)
Mr. Henning Larsen, DEQ NW Region (electronic only)
Mr. Keith Johnson, DEQ NW Region (electronic only)
Mr. Dan Hafley, DEQ NW Region (electronic only)
Ms. Jennifer Peterson, DEQ NW Region (electronic only)
Mr. Mike Poulsen, DEQ NW Region (electronic only)
Ms. Cindy Bartlett, Geosyntec Consultants, Inc. (electronic only)
Mr. Bruce Marvin, Geosyntec Consultants, Inc. (electronic only)
Mr. Vipul Srivastava, Geosyntec Consultants, Inc. (electronic only)
Mr. Myron Burr, Siltronic Corporation (electronic only)
Mr. James Peale, Maul Foster & Alongi, Inc. (electronic only)
Ms. Madi Novak, Maul Foster & Alongi, Inc. (electronic only)
Mr. Mike Murray, Maul Foster & Alongi, Inc. (electronic only)
Ms. Mary Benzinger, Maul Foster & Alongi, Inc. (electronic only)
Ms. Kelly Titkemeier, Maul Foster & Alongi, Inc. (electronic only)
Ms. Kristine Koch, Region 10 EPA (electronic only)
Mr. Sean Sheldrake, Region 10 EPA (electronic only)
Mr. Rene Fuentes, Region 10 EPA (electronic only)
Ms. Eva DeMaria, Region 10 EPA (electronic only)
Mr. Lance Peterson, CDM, Inc. (electronic only)

ATTACHMENT

COMMUNICATIONS AND SUBMITTALS – NOVEMBER 2016

In correspondence dated November 8, 2016 (Alex Liverman to Todd Thornburg), DEQ provided comments and conditional approval of the *Draft Gasco Stormwater Source Control Work Plan, NW Natural Gasco Site* prepared by Anchor QEA, dated October 14, 2016.

A meeting and Gasco property site tour was conducted with representatives of NW Natural and DEQ on November 14, 2016. The primary purpose of the meeting was to discuss the overall remedial strategy to be developed in the upland Feasibility Study for the Gasco Site.

In correspondence dated November 15, 2016 (Dana Bayuk to John Edwards), DEQ provided a list of topics for discussion during a pending teleconference scheduled for November 16, 2016. The primary purpose of the call will be to discuss DEQ's approach for finalizing the status of the HC&C system as "long term operation".

A teleconference was conducted with representatives of NW Natural and DEQ on November 16, 2016 to discuss moving the HC&C system from its optimization/testing phase and into long-term operation.

Various communications between DEQ and NW Natural occurred between November 16, 2016 and November 21, 2016 regarding the coordination and preparation of materials for a meeting to discuss the Gasco OU RI/RA Addendum.

In correspondence dated November 22, 2016 (Todd Thornburg to Dana Bayuk), AQ, on behalf of NW Natural, provided a package of materials to support pending discussions related to the preparation of the Gasco OU RA/RA Addendum.

Project and Program Management calls with representatives of DEQ, NW Natural, and Siltronic were held on November 22, 2016 and November 28, 2016.

In correspondence dated November 23, 2016 (Dana Bayuk to Todd Thornburg), DEQ requested that a redline-strikeout version of materials provided on November 22, 2016 in order to highlight where changes relative to the approach used at the Gasco Site were made. The requested redline-strikeout versions were subsequently provided by NW Natural in correspondence dated November 28, 2016 (Todd Thornburg to Dana Bayuk).

In correspondence dated November 23, 2016 (Dana Bayuk to John Edwards), DEQ provided comments from review of the AQ document *Evaluation of Transducer Drift and Calibration Data, NW Natural Gasco Site*, dated August 5, 2016 (Transducer Data Evaluation).

In correspondence dated November 23, 2016 (John Edwards to Dana Bayuk), AQ thanked DEQ for the review of the Transducer Data Evaluation and requested a conference call to review DEQ's findings and recommendations.